

ColdLogik

By 

CL80 InRow Cooler

ColdLogik CL80 InRow Coolers ensure efficient thermal and energy performance by removing the heat generated by active equipment, preventing hot exhaust air entering space where it is not permitted.

The InRow solution works in conjunction with racks in aisle containment and is available to suit both CAC and HAC configurations. Warm exhaust air passes over the InRow heat exchanger matrix, either by its own velocity or being pulled through via EC centrifugal fans mounted in the CL80. Heat is rejected to fluid and chilled air is passed back into the ambient space at predetermined temperature.

The InRow coolers can be sited within an existing data centre to work with existing computer room air-conditioning to provide additional cooling. They also reduce energy consumption and remove hot spots.



42U 300w
InRow

42U 600w
InRow

Performance Examples

Performance examples—these three examples are showing the IRC options, with differing duties attainable when regulating or changing the water temperature. Other performance duties are attainable when calculating bespoke project specific requirements.

Maximum Duty

Our highest duties offer high performance cooling based on an Industry Standard 14/20°C (57.2/68°F) water supply/return from mechanically cooled external plant, and has the ability to offer cooling capacities of up to 74 kW per rack.

Cooling Capacity CL80		300w	600w
Maximum Duty	kW	69	74
Air flow (50Hz 230v)	m ³ /h (CFM)	8535 (5027)	8535 (5027)
DB Air On	°C (°F)	45 (113)	45 (113)
DB Air Out	°C (°F)	19 (66.2)	17 (62.6)
Water In	°C (°F)	14 (57.2)	14 (57.2)
Water Out	°C (°F)	20 (68)	20 (68)
Volume Fluid Flow	m ³ /h (l/s) /	9.88 (2.7) / 43.5	10.67 (3.0) / 47.0
Fluid Velocity	m/s (ft/s)	1.95 (6.2)	1.76 (5.6)

Nominal Duty

This is a more general, workable duty with 18°C/64.4°F water inlet and covers most requirements in Europe while also maintaining a room temperature of 27°C/80.6°F or lower. Delivering performance of up to 63kW per rack.

Cooling Capacity CL80		300w	600w
Nominal Duty	kW	58	63
Air flow (50Hz 230v)	m ³ /h (CFM)	8535 (5027)	8535 (5027)
DB Air On	°C (°F)	45 (113)	45 (113)
DB Air Out	°C (°F)	23.1 (79.3)	21.2 (75.2)
Water In	°C (°F)	18 (64.4)	18 (64.4)
Water Out	°C (°F)	25 (77)	25 (77)
Volume Fluid Flow	m ³ /h (l/s) /	7.14 (2.0) / 31.5	7.77 (2.2) / 34.2
Fluid Velocity	m/s (ft/s)	1.41 (4.6)	1.28 (4.2)

Efficient Duty

Taking advantage of warmer water temperature inlets of 20°C/68°F the necessity of mechanical cooling is reduced, and allows for most day free cooling. This will provide customers with higher efficiency cooling and lower running costs thus beginning to obtain a return on their investment while maximising real estate.

Cooling Capacity CL80		300w	600w
Efficient Duty	kW	49	54
Air flow (50Hz 230v)	m ³ /h (CFM)	8535 (5027)	8535 (5027)
DB Air On	°C (°F)	45 (113)	45 (113)
DB Air Out	°C (°F)	26.5 (79.7)	24.6 (76.3)
Water In	°C (°F)	20 (68)	20 (68)
Water Out	°C (°F)	30 (86)	30 (86)
Volume Fluid Flow	m ³ /h (l/s) /	4.23 (1.2) / 18.6	4.67 (1.3) / 20.6
Fluid Velocity	m/s (ft/s)	0.84 (2.8)	0.77 (2.5)

Cooling capacity data is shown for illustration purposes. USystems work alongside their customers who largely have unique challenges and ambitions. The nature of our technology, capabilities and approach is emulated in the delivery of efficient designs and solutions across the globe.

Legend

DB - Dry Bulb

ΔT - Delta T / difference supply and return temperatures

Air On - Air onto coil / air off active equipment

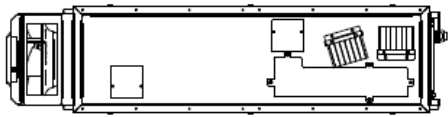
Air Off - Air off coil / air out from ColdLogik cooler

Technical Data

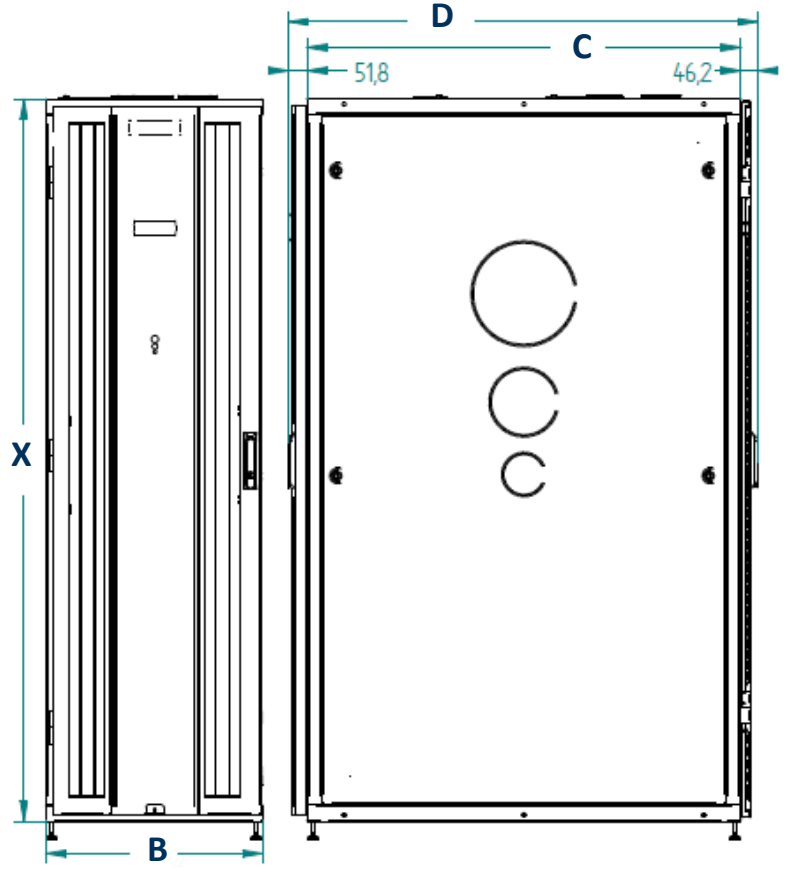
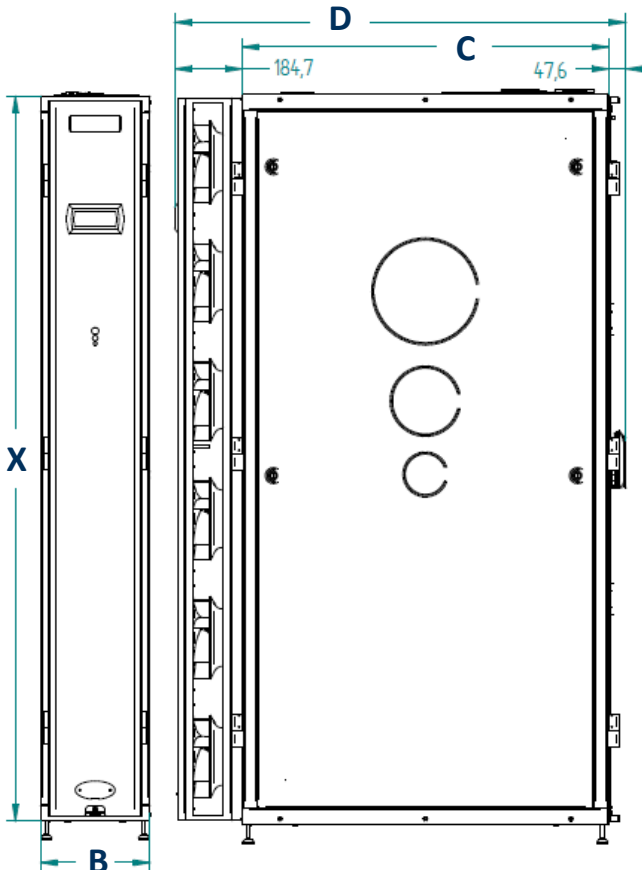
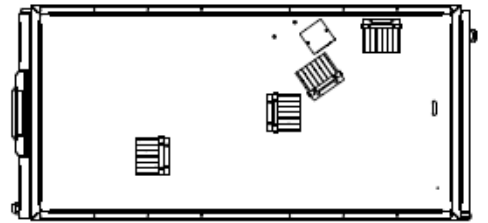
CL80						CL80 Combined Fan Performance				
Technical Information to Suit:		42U*				Type: Backwards Curved Centrifugal				
		300w		600w						
		1000d	1200d	1000d	1200d					
Height (X)	mm (")	2000 (78.4)				Number of fans		6		
Width (B)	mm (")	300 (11.8)		600 (23.6)		Air flow		m ³ /h (CFM)		
Frame Depth (C)	mm (")	1000 (39.4)	1200 (47.2)	1000 (39.4)	1200 (47.2)	30%	2561 (1508)			
Maximum Depth (D)	mm (")	1232 (48.5)	1432 (56.4)	1098 (43.2)	1298 (51.1)		70%	5975 (3519)		
Dry Weight	kg (lb.)	140 (308.6)	168 (370.4)	200 (440.9)	240 (529.1)		100%	8535 (5027)		
Wet Weight	kg (lb.)	150.7 (332.2)	170.7 (376.3)	212.9 (469.3)	252.9 (557.5)	Current	50Hz 230v / 60Hz 208v	A		
Paint	Finalised on Order	RAL 7035 (Light Grey)				30%		0.76 / 0.84		
		RAL 9005 (Black)						70%	3.54 / 3.91	
Communication Protocol		Modbus over TCP/IP					Power Input	50Hz 230v	W	
		(BACnet, SNMP optional)				70%				379
Connections	mm (")	25 (1)				100%				1014
Water Volume Capacity	L (USG)	10.7 (2.8)		12.9 (3.4)		Total fan noise	dB	30%	68	
Maximum IRC Current Draw	A	9.5						70%	83	
								100%	89	

*Blanking panels available for 47U, 48U, 52U

300w



600w



Further Documentation

For additional information, please refer to the below. Available through your USystems representative, or our central enquires line at sales@usystems.com

Complete Product Range

Available at www.usystems.com

Operations and Maintenance Manual

Please contact sales@usystems.com

Troubleshooting Guide

Please contact sales@usystems.com

Product Brochure

Available at www.usystems.com



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